What is Claimed:

1.   A packet based terminal device addressing system for enabling a calling party using a circuit based terminal device, which is addressable via a telephone

5   number, to initiate a communication connection to a called party who is using a packet-based terminal device, which is addressable via an IP address, comprising:

means for storing data in a memory indicative of a correspondence between at least one IP address assigned to a called party's packet-based terminal device and a telephone number assigned to said called party's circuit-based terminal device;

10   means, responsive to receipt of data from said calling party indicative of said called party's telephone number corresponding to said called party's circuit-based terminal device, for retrieving data from said memory indicative of said IP address assigned to a called party's packet-based terminal device; and

means for establishing a communication connection between said calling

15   party's circuit-based terminal device to said called party's packet-based terminal device.

2.   The packet based terminal device addressing system of claim 1 wherein said means for establishing comprises:

20   means for transmitting said IP address assigned to said called party's packet-based terminal device to at least one packet-based communication service to locate said called party's packet-based terminal device.

3.   The packet based terminal device addressing system of claim 2 wherein

25   said means for establishing further comprises:

means, responsive to receipt of a message from one of said at least one packet-based communication services indicative of a presence of said called party's packet-based terminal device on said one of said at least one packet-based communication services, for extending a communication connection from said calling

party's circuit-based terminal device to said one of said at least one packet-based communication services.

4.   The packet based terminal device addressing system of claim 1 wherein

5   said means for storing comprises:

means for storing a set of data comprising data indicative of an IP address assigned to each of a plurality of a called party's packet-based terminal devices.

5.   The packet based terminal device addressing system of claim 4 wherein

10   said means for retrieving comprises:

means for providing said calling party with a list of said called party's packet-based terminal devices; and

means, responsive to said calling party selecting a one of said called party's packet-based terminal devices, for identifying a packet-based communication service

15   serving said called party's packet-based terminal device.

6.   A method of operating a packet based terminal device addressing system for enabling a calling party using a circuit based terminal device, which is addressable via a telephone number, to initiate a communication connection to a

20   called party who is using a packet-based terminal device, which is addressable via an IP address, comprising the steps of:

storing data in a memory indicative of a correspondence between at least one IP address assigned to a called party's packet-based terminal device and a telephone number assigned to said called party's circuit-based terminal device;

25   retrieving, in response to receipt of data from said calling party indicative of said called party's telephone number corresponding to said called party's circuit-based terminal device, data from said memory indicative of said IP address assigned to a called party's packet-based terminal device; and

establishing a communication connection between said calling party's circuit-

based terminal device to said called party's packet-based terminal device.

7.   The method of operating a packet based terminal device addressing system of claim 6 wherein said step of establishing comprises:

5   transmitting said IP address assigned to said called party's packet-based terminal device to at least one packet-based communication service to locate said called party's packet-based terminal device.

8.   The method of operating a packet based terminal device addressing

10   system of claim 7 wherein said step of establishing further comprises:

extending, in response to receipt of a message from one of said at least one packet-based communication services indicative of a presence of said called party's packet-based terminal device on said one of said at least one packet-based communication services, a communication connection from said calling party's circuit-

15   based terminal device to said one of said at least one packet-based communication services.

9.   The method of operating a packet based terminal device addressing system of claim 6 wherein said step of storing in a memory comprises:

20   storing a set of data comprising data indicative of an IP address assigned to each of a plurality of a called party's packet-based terminal devices.

10.   The method of operating a packet based terminal device addressing system of claim 9 wherein said step of retrieving comprises:

25   providing said calling party with a list of said called party's packet-based terminal devices; and

identifying, in response to said calling party selecting a one of said called party's packet-based terminal devices, a packet-based communication service serving said called party's packet-based terminal device.

11.   A packet based terminal device addressing system for enabling a calling party using a circuit based terminal device, which is addressable via a telephone number, to initiate a communication connection to a called party who is using a packet-based terminal device, which is addressable via an IP address, comprising:

5   data storage means for storing data in a memory indicative of a correspondence between at least one IP address assigned to a called party's packet-based terminal device and a telephone number assigned to said called party's circuit-based terminal device;

terminal device location means, responsive to receipt of data from said calling 10 party indicative of said called party's telephone number corresponding to said called party's circuit-based terminal device, for retrieving data from said memory indicative of said IP address assigned to a called party's packet-based terminal device; and

communication connection means for establishing a communication connection between said calling party's circuit-based terminal device to said called party's packet-15 based terminal device.

12.   The packet based terminal device addressing system of claim 11 wherein said communication connection means comprises:

terminal device locator means for transmitting said IP address assigned to said 20 called party's packet-based terminal device to at least one packet-based communication service to locate said called party's packet-based terminal device.

13.   The packet based terminal device addressing system of claim 12 wherein said communication connection means further comprises:

25   inquiry response means, responsive to receipt of a message from one of said at least one packet-based communication services indicative of a presence of said called party's packet-based terminal device on said one of said at least one packet-based communication services, for extending a communication connection from said calling party's circuit-based terminal device to said one of said at least one packet-

based communication services.

14.   The packet based terminal device addressing system of claim 11 wherein said data storage means comprises:

5   directory means for storing a set of data comprising data indicative of an IP address assigned to each of a plurality of a called party's packet-based terminal devices.

15.   The packet based terminal device addressing system of claim 14

10   wherein said terminal device location means comprises:

        destination selection means for providing said calling party with a list of said called party's packet-based terminal devices; and

        service identification means, responsive to said calling party selecting a one of said called party's packet-based terminal devices, for identifying a packet-based

15   communication service serving said called party's packet-based terminal device.